Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

and that may recall an adult state of an early ancestor. Moreover it cannot be denied that the fossil record, meager though it is, is the real record, whereas any scheme evolved in accordance with the eight principles already named must remain, if untested by the fossil record, forever hypothetical. How little we would know of the real characters and genetic relations of the reptiles or of the mammals if we limited ourselves to these principles. But, it might be retorted, that granting what has been said about reptiles and mammals what light does the fossil series give us on the interrelations of such groups as the animal phyla, and to this question it must be admitted that no satisfactory reply can be made. But is it perhaps not well to confess at once complete ignorance of a question which from its very nature can receive only such an answer as will remain forever hypothetical? The reviewer is inclined to believe that it is.

G. H. Parker.

Hough and Sedgwick's Physiology.[1]—The volume under consideration is a reprint of the first half of "The Human Mechanism," by the same authors. The latter has been favorably reviewed in the *Naturalist* for March of this year (p. 194). The "Physiology" is an excellent text-book for high school grades, and since further editions will undoubtedly be called for, it is perhaps desirable to suggest that more attention might profitably be given to anatomy, upon which physiology is to some extent founded. The authors state that "in the present book anatomy has been reduced to its lowest terms and microscopic anatomy or histology has been touched upon only as far as seemed absolutely necessary." Some of the anatomical references which might be improved are as follows. On p. 167, "alveolus" is used for "lobule" of the lung; and "air cell" for "alveolus." The thyreoid gland, a median, bilobed structure, is described as "two small organs which lie in the neck, one on each side of the trachea" (p. 66). The red corpuscles are said to be "biconcave disks" (p. 135) although they are now generally considered to be cup-shaped, with a small proportion of spherical forms; they vary in shape, but the biconcave form is not characteristic of circulating blood. Occasionally an unnecessary term is introduced,—"sarcostyle" is not better than muscle fibril or myofibril, and "synapse" is not, for high school scholars, an improvement upon terminal branches. (Neither sarcostyle

---

[1] Hough, T. and Sedgwick, W. T. Elements of Physiology. Boston, Ginn & Company, 1907. 12mo, 321 pp., illus. $1.25.

(Schäfer) nor synapse (Foster) are in very wide use at present.) Generally, however, the book shows that the authors had in mind the immature student, as when they state that "the surface area of all the red corpuscles of the blood is 3,000 sq. meters or approximately four times the size of a baseball diamond." On the whole it is a book excellently adapted to its purpose, and in its present form it can be still more widely used.

F. T. Lewis.

ZOOLOGY

The Nervous System of Vertebrates.[1] — Bell's discovery that the dorsal roots of spinal nerves in vertebrates are sensory and the ventral roots motor in function may be said to be the first step in subdividing the nervous organs of these animals into physiological regions. This process has been very much extended recently especially by certain American neurologists with the result that the nerves and central organs of vertebrates have come to be considered as aggregations of elementary systems of fibers essentially homogeneous from a physiological standpoint. The observations upon which this conception is based are contained for the most part in special papers and have not heretofore been collected and condensed into a single readable account. Such an account has been attempted by Johnston in his text-book on the vertebrate nervous system.

The introductory chapters of this work treat of the morphology, development, and physiology of the nervous system, after which its parts are dealt with, not as in most text-books from the topographical standpoint, but from that of physiological components.' Chapters are devoted in sequence to the somatic afferent division as represented by the nervous mechanism concerned with touch, the lateral line organs, and the ear; to the visceral afferent division as represented by the visceral sensory apparatus and the organs of taste; to the somatic motor division controlling the skeletal musculature; and to the visceral afferent division concerned with the visceral musculature, etc. These chapters are followed by others dealing with special centers: the cerebellum, mesencephalon, diencephalon, and cerebral hemispheres.

---

[1] Johnston, J. B. The Nervous System of Vertebrates. P. Blakiston's Son & Co., Philadelphia, 1906, xx + 370 pp., 180 illustrations.